



**ISAC Meeting: August 8, 2007**

## **VistA Imaging Update**

### **Mark Carroll, MD**

**VISTA Imaging Display : MADTL.F F (isw-imgdemo1) in use by :FRA...**

File Options View Reports Help System Manager

Patient: Demo, Patient

Demo of various type of Images.

No Health Summary exists for this Demo Patient

**31 Abstracts : Demo, Patient**

31 Images

- 1 patient photo PATIENT ID 35 - 12/14
- 2 Back of Patient with DERM 35 - 12/12
- 3 Back Closeup, Neurof DERM 35 - 06/14
- 4 Gastrointestinal Pol GI 35 - 05/01
- 5 Giardia LAB 34 - 02/04
- 6 Anatomical Drawing MAS 34 - 02/01
- 7 Chest Xray RAD 34 - 01/01
- 8 MUGA Nuc Med Heart S CARD 33 - 05/01
- 9 Surgery SUR 33 - 04/02
- 10 Corneal Transplant OPH 33 - 02/01
- 11 Dental Intraoral Pro DEN 33 - 01/01
- 12 Pathology Mitoses 10 LAB 32 - 12/01

----- ADC - Admission/Discharge (max 5 on (continued)

03/04/94 - 03/08/94  
 Last Tr Specialty: GENERAL (ACUTE MEDICINE)  
 Bedsection: GENERAL (ACUTE MEDICINE)  
 DXLS: CHEST PAIN NOS  
 ICD DX: AORTOCORONARY BYPASS  
 DIAPHRAGMATIC HERNIA  
 OTHER PSORIASIS  
 NAUSEA AND VOMITING

04/27/93 - 05/28/93  
 Last Tr Specialty: GENERAL (ACUTE MEDICINE)  
 Bedsection: GENERAL (ACUTE MEDICINE)  
 DXLS: CORONARY ATHEROSCLEROSIS

**Radiology Viewer -- Demo, Patient**

File Image Rotate CTPresets Tools Options Layout Help

MagnifyOn AutoWinLev PanOn Win: 189 Lev: 152

Modify Selected Image Im  
 Modify All Images Zc

Report Print Copy

RAD 91 - 06/05 MRI (8x256x256)

**Full Resolution View -- Demo, Patient**

Brightness 100 Contrast 90 Zoom 101

LAB 92 - 12/01 Pathology Mitoses 100X

20 06-OCT-1994 ORDER:

# Topics for today's discussion

- Installation update
- Status report on other topics
- Issues and resolutions
- Interesting developments
- The “horizon”





# **Strategic Direction**



- **VistA Imaging is the multimedia component of the Veteran's Administration Electronic Health Record**
- **VistA Imaging is offered/supported as the multimedia component of IHS Electronic Health Record**



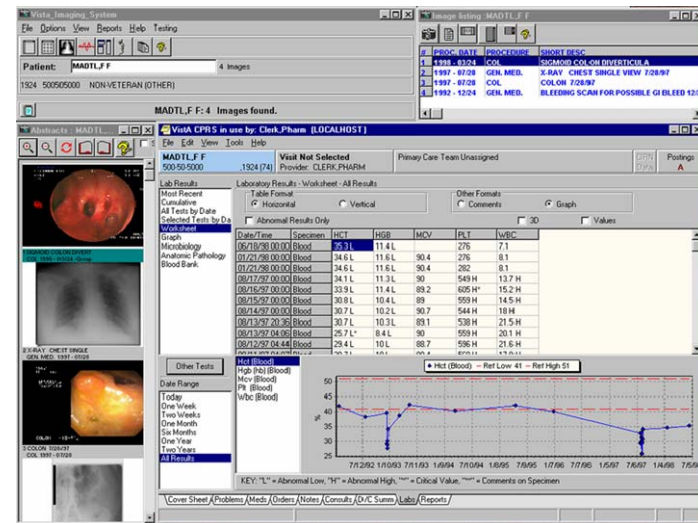
# EHR “Image” Needs

- Reports
  - Consults from Outside Specialists
- Consents
- Advance Directives
- Patient Photos
- Non-DICOM images
  - E.g. photos of wounds, rashes, etc
- DICOM type images
  - E.g. radiology

# Vista Imaging Functionality

- Multi-faceted software program developed in federal sector for image capture, display, and storage of:

- Scanned documents
- Non-DICOM images
- DICOM images





# **VistA Imaging in the VHA:** **Summary**

- First version developed in 1987
- National rollout began in 1998
- “Core Imaging” mandated in 2001
  - VistA Rad (PACS) is optional
  - Copies of all Rad images from commercial PACS systems mandated to be sent to VI as of 2006



# **VistA Imaging in Indian Health: Summary**

- First facility pilot in 2004/5
  - Wind River
- First regional installations in 2006
  - Portland and Nashville
- Roll-out as guided by IHS Areas and IHS/Tribal facilities in 2007-09
  - To be determined by local and regional needs, funding, and priorities

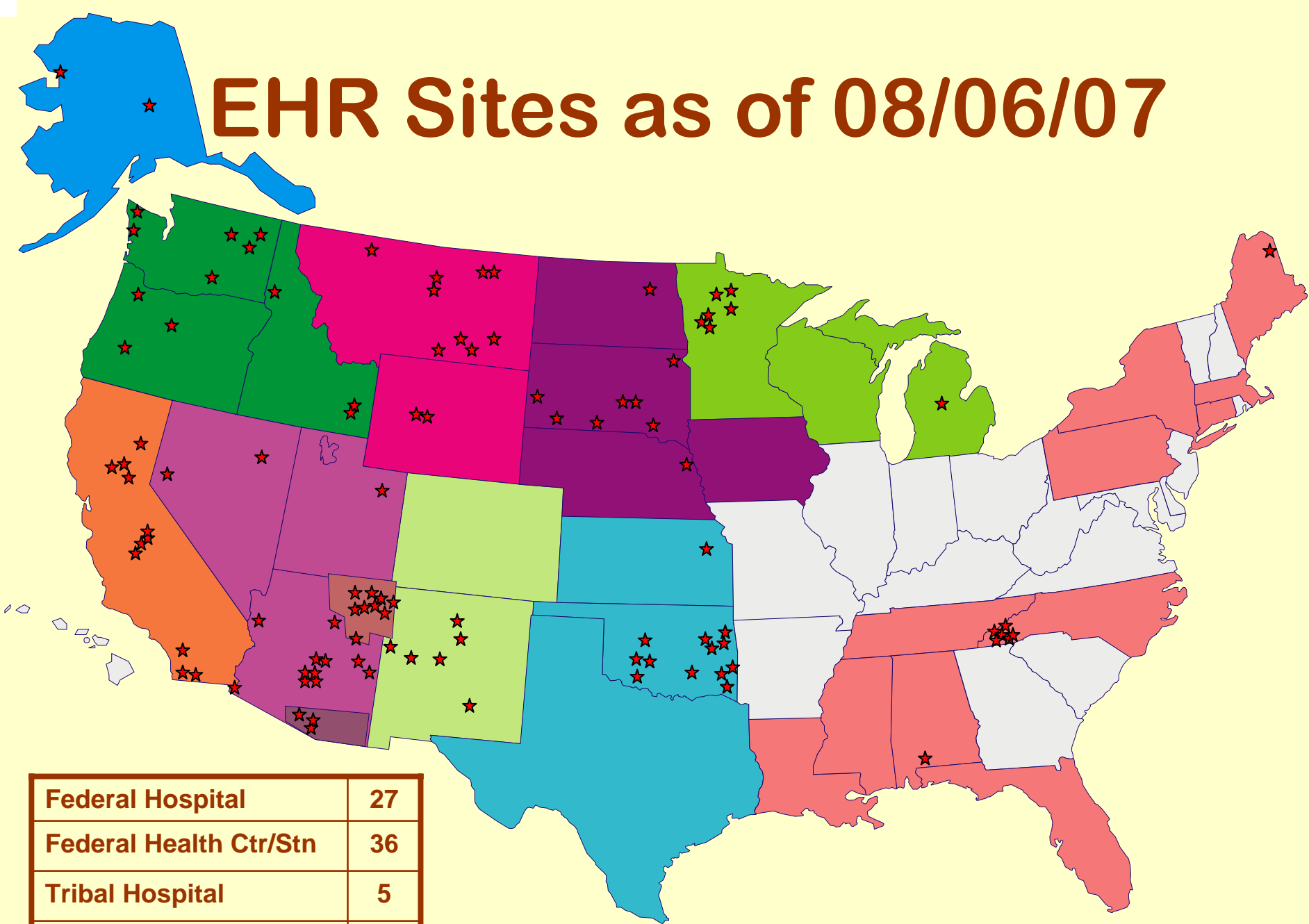


# Implementation planning - c. 2005

	FY05	FY06	FY07	FY08	FY09	FY10
Proof of Concept Sites	4					
FY05 EHR Sites		24				
FY06 EHR Sites			40			
FY07 EHR Sites				40		
FY08 EHR Sites					40	
FY09 EHR Sites						37

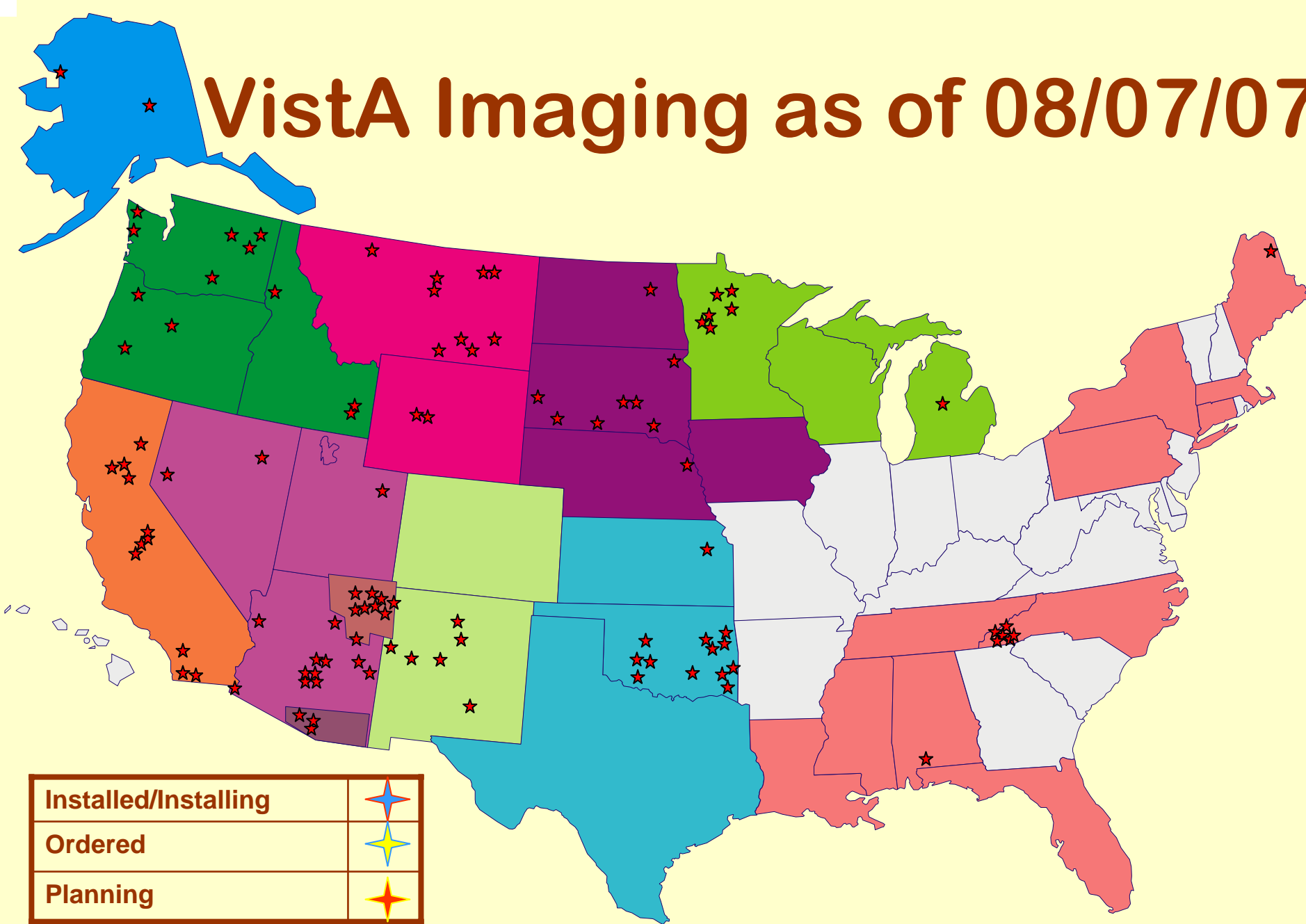


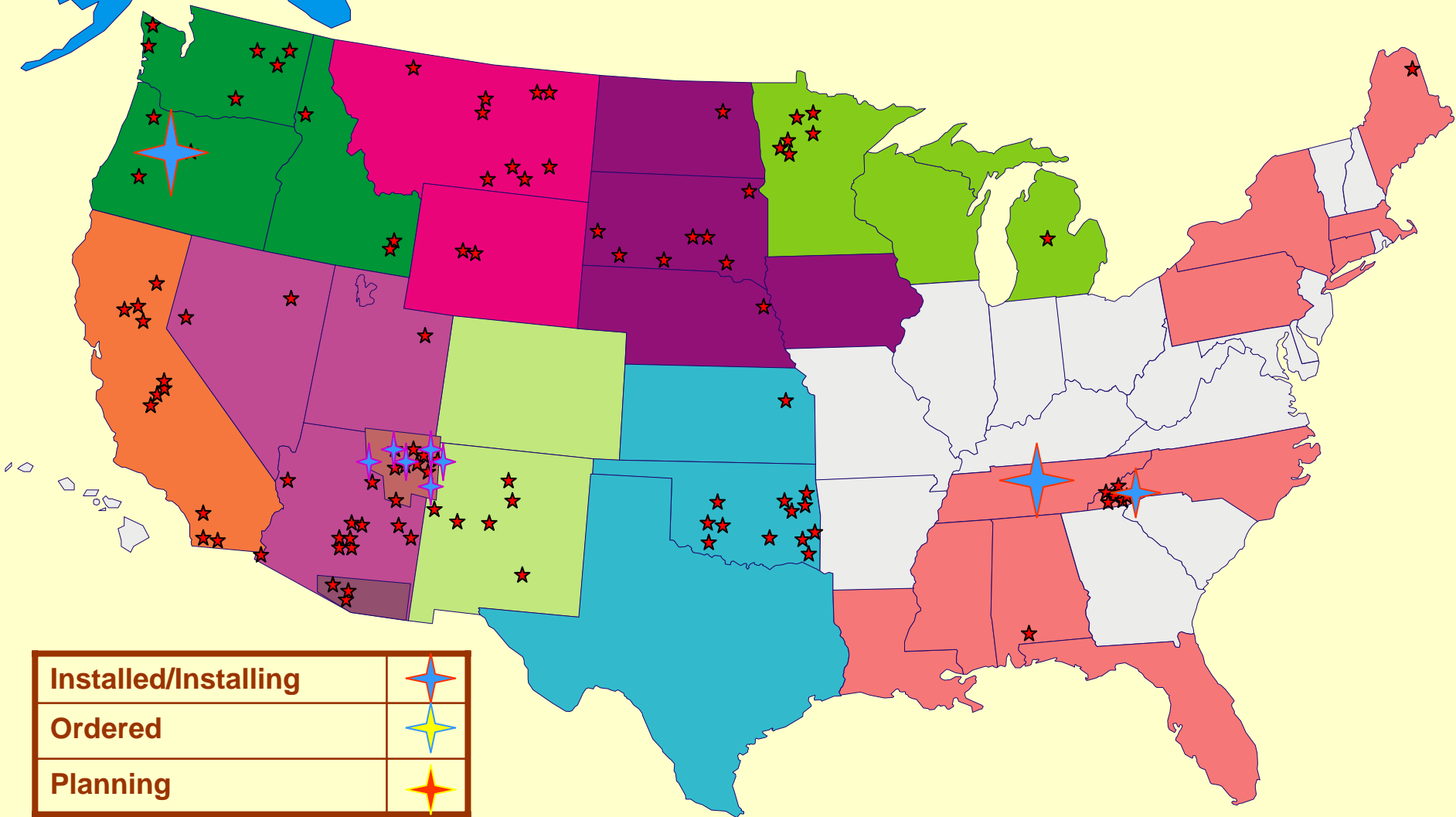
# EHR Sites as of 08/06/07






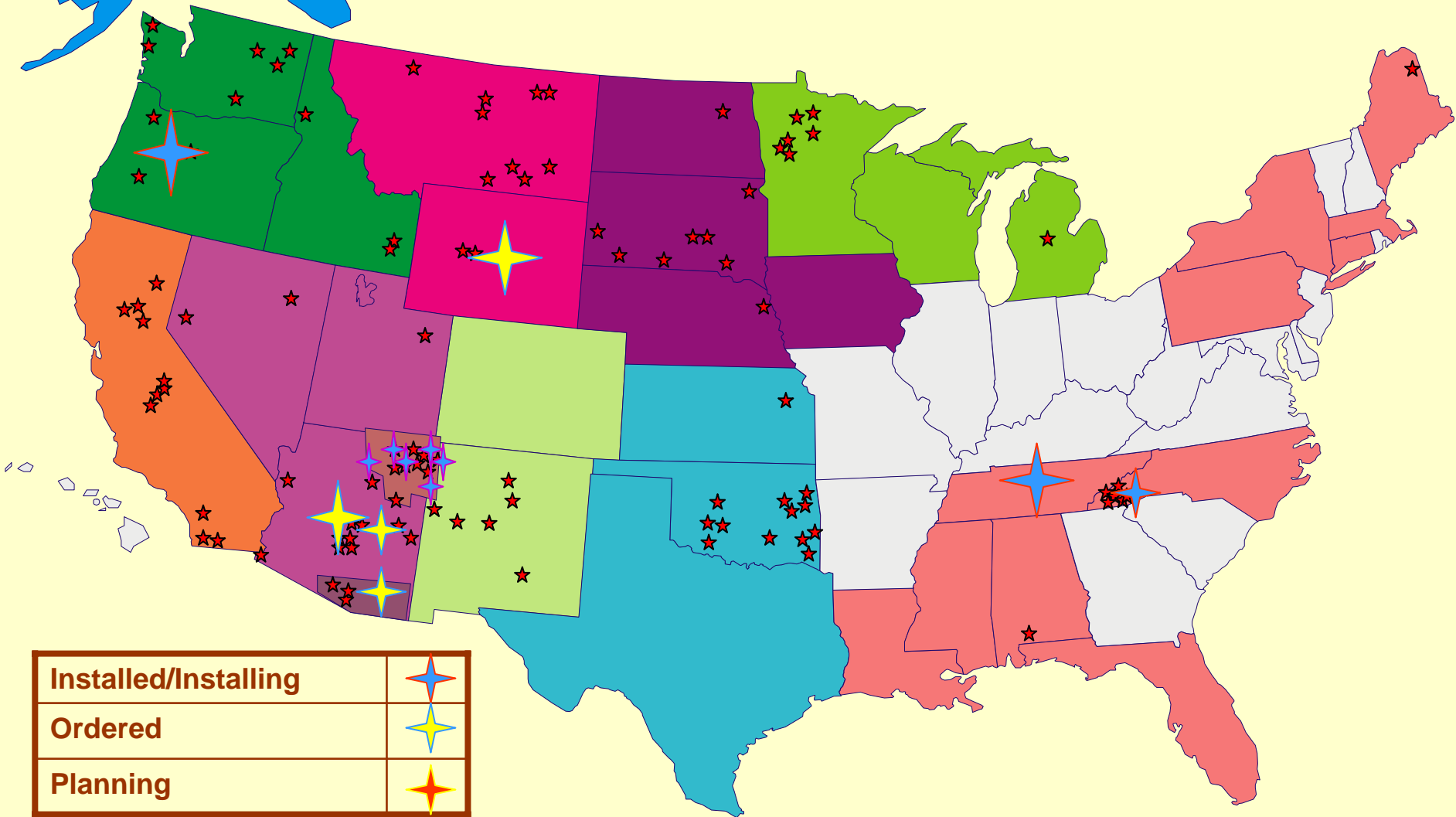
Federal Hospital	27
Federal Health Ctr/Stn	36
Tribal Hospital	5
Tribal Health Ctr/Stn	37




# VistA Imaging as of 08/07/07

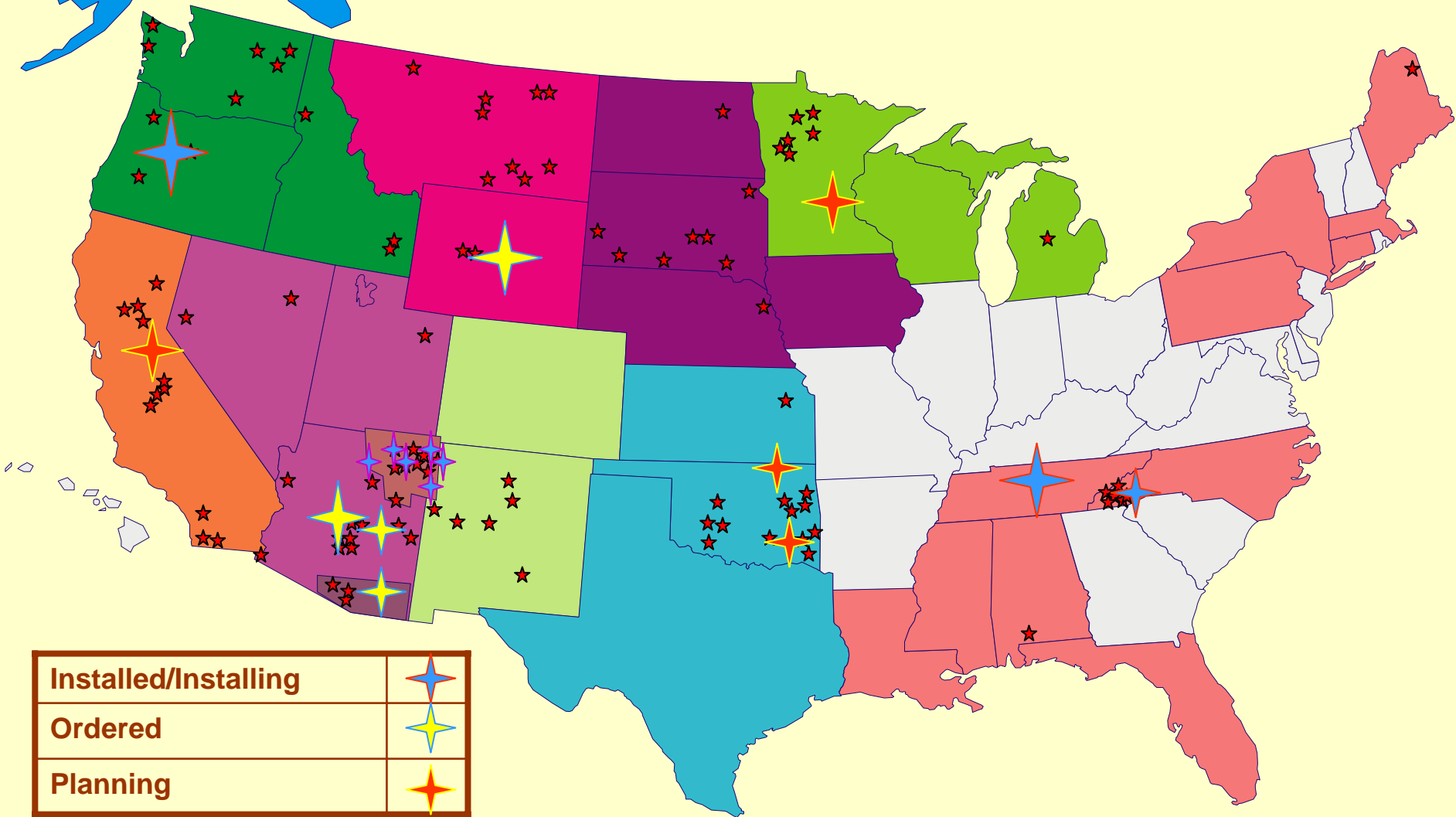







Installed/Installing	
Ordered	
Planning	



<b>Installed/Installing</b>	
<b>Ordered</b>	
<b>Planning</b>	



Installed/Installing	
Ordered	
Planning	



# How to Implement VistA Imaging?

- Different models are possible:
  - Option 1: On-line cluster and permanent archive at installing site
    - Example: Cherokee, NC
  - Option 2: Local on-line cluster with regional, shared permanent archive
    - Example: Navajo Area
  - Option 2: Regional solution to both on-line cluster and permanent archive
    - Examples: Portland and Nashville
- Reminder re: PACS
  - VistA Imaging can:
    - Be used without PACS capability
    - Be used as a PACS system
    - Be blended with existing PACS systems



# How do we count “installed” sites?

- Regional solutions offer infrastructure for all sites in the region
  - But not all sites in the region use that infrastructure at present
  - AND – many Areas/regions planned a phased implementation
- Proposed formula
  - Count sites that have folders labelled for them on shared VI clusters – as well as the percent of those sites using those folders for any clinical activity



# **Status report on:**

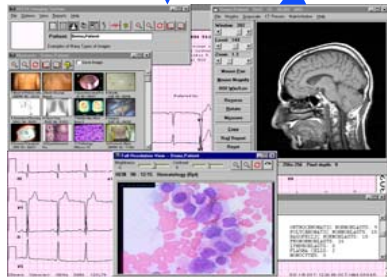
- **Information system integration**
  - EHR-VistA Imaging integration
  - AHFCAN-VistA Imaging integration
- **Annual license renewals**
- **Annual performance measure reporting**
- **Training and Support**
  - Annual Inter-Agency Funding agreement for ongoing VA support



# Integrated Systems of Care



**AFHCAN**  
*Access Without Limits*



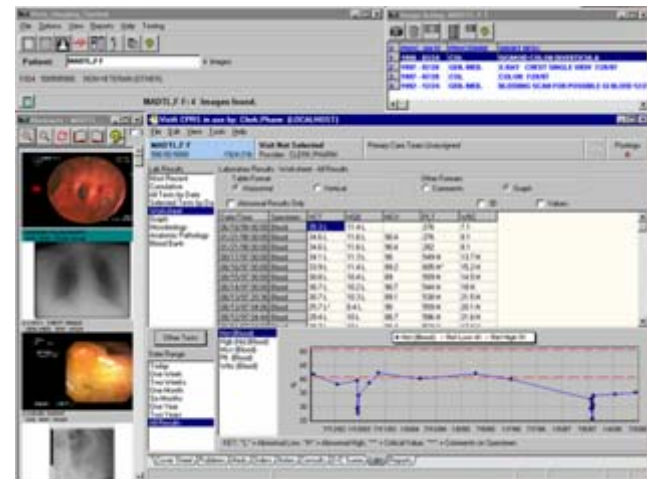
■ Focus on standards and information systems integration between

- IHS EHR
- VistA Imaging
- AFHCAN



- **Maintains patient context**
- **Presently requires a separate enduser log-on**
- **Other customization work under review**

- Annotation tool
- Patient photo addition, etc.





# VI - EHR Integration

## ■ Single sign-on (SSO)

- Options analysis completed by Medsphere and reviewed by OIT and VA VI program
  - Ideal solution = CCOW-based SSO
    - Requires purchase of commercial CCOW context manager
  - Selected solution for near-term = modify Medsphere RPC broker to implement VA broker SSO capability

## ■ Annotation tool

- Successful testing completed of CPRS COM wrapper component with VI annotation tool
  - To now have formal internal testing at Warm Springs in next month



# Proprietary Licenses

---

- VistA Imaging is free to IHS and Tribal facilities
- Some embedded software though must be licensed:
  - Accusoft Image Gear run-time licens
  - Other as may be needed:
    - DICOM query and retrieve
    - DICOM compression



# **Annual performance measures**

- **Baseline set in FY 06 for number of images stored/on-line**
  - **Manually measured**
- **Targets established for increase in percent of stored/on-line images in 07 and 08**
  - **Planned automated measurement via VA enterprise software (and routine mailman type messages) between IHS installations and VA enterprise software via the IHS-VHA tunnel**



# **Annual funding agreement**

---

**SUPPLEMENTAL PROJECT AGREEMENT TO THE  
MEMORANDUM OF AGREEMENT FOR  
VETERANS HEALTH ADMINISTRATION AND INDIAN HEALTH SERVICE  
HEALTH INFORMATION TECHNOLOGY SHARING:**

**USE OF THE VETERANS HEALTH ADMINISTRATION (VHA)  
VISTA IMAGING SYSTEM BY THE INDIAN HEALTH SERVICE (IHS)**

**I. PURPOSE:**

The purpose of this project agreement is to provide a framework for the Indian Health Service (IHS) implementation of the Veterans Health Administration (VHA) VistA Imaging (VI) system.



# **IHS-VHA Distribution Agreement**

- **VHA is manufacturer of FDA regulated device**
- **IHS cannot modify VistA Imaging code**
  - Software is free (except for some embedded proprietary software)
- **IHS must install VistA Imaging on hardware configuration certified by VHA**
  - HP is only vendor currently certified by the VHA for full configuration – on-line storage and permanent storage



# **VHA support**

## ■ For:

- Planning and Implementation
- Assistance from VistA Imaging Program Office
- Training
- VHA Enterprise support
  - i.e. application help desk





# **Tiered support model**

---

- **Local site**
  - First line
- **Area/regional staff**
  - As available – and based on regional approaches and resources
- **VA enterprise support/help desk**
  - Includes access to 'Remedy', on-line support module



# Training

- Trainings last month by VA training staff for Portland Area - and this month for Navajo Area - will help guide training model for remaining of Indian health system
- Hybrid training model planned
  - On-site/in-person
  - On-line
  - Weekly calls/listserve
  - VEHU
  - Webex
  - Regional train-the-trainer etc



# Issues and Resolutions

## ■ SSN vs. HRN

- Problem: modality worklist management
- Fix: new Patch developed by VHA

## ■ Reimbursement for VA travel

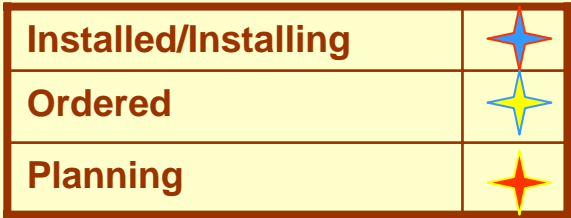
## ■ ‘Who is responsible for what?’

- Inter-disciplinary team approach for IRM, Biomed, Radiology
  - Document developed by Navajo Area re: roles and responsibilities



# developments of interest

- **Clinical care capacity**
  - Teleradiology between Portland Area and VHA VISN 15
- **VI software development**
  - IHS representation on VI change control board
- **Shared archive between IHS Areas**
  - Billings and Nashville Areas
  - ?Others in the future





# The Horizon

- **Implementation timeline**
  - When will it be completed?
- **EHR-VI continuum**
  - Two projects or one?
- **IHS-VHA network-to-network connectivity**
  - Possibilities re: I2 (potentially expanding teleradiology options between Indian health and VA)
- **Implications beyond VI**
  - e.g MPI and CCOW
- **Support planning**
  - The expanding role of the 'CAC'



# How to get more information?

- <http://vhacollaboration.ihs.gov/VistAlmaging/default.aspx>
- [mark.carroll@ihs.gov](mailto:mark.carroll@ihs.gov)
- [janis.sollenbarger@va.gov](mailto:janis.sollenbarger@va.gov)



# Thank You

